of existing cable ducts. Further, use of the optical fiber ribbons 20 provide easier fiber identification, maintenance and splicing when working on the fibers. The size of the optical fiber ribbons 20 may be varied depending on the particular application. Also, similar to the embodiment of Figure 2, a gel or foamy glue 16 may be provided within the buffer tube 18 for filling the air gaps and positioning the optical fibers ribbons 20. As shown in Figure 3a, it may also be advantageous to provide the optical fibers 14 or the optical fiber ribbons 20 on an outside portion of the rolled composite tape 12, such that the composite tape 12 is rolled to form a tube and optical fiber ribbons 20 are positioned radially or helically stranded on the outside portion of the rolled composite tape 12. This configuration provides particular benefits because stacks of ribbons are positioned on top of a light-weight cylinder made of a composite material. The cylinder is empty, thus the cable weight is reduced. Also, traditional thermoplastic or a new composite-tape layer can be used as an outer jacket to enclose the stacks of ribbons. In addition, the cavity of the hollow central tube can be used to run electric wires, or other elements typically found in hybrid telecommunication and power cables. Another benefit of this embodiment is that, when under radial compression, the hollow central tube does not embed into the ribbons, but rather deforms, and protects the fibers from excessive stress.

Page 6, second full paragraph, please delete and replace with the following:

A gel or foamy glue 26 may be used to fill in gaps between the buffer tubes 18 and to hold the stack 22 together. Examples of suitable gel formulations include gels comprised of

mineral oils and/or synthetic polyolefin oils combined with a polymeric thixotropy modifier or pyrogenic silica. Commercially available gel compounds include Mastergel R-1806 and R-1806LT. By bundling together multiple buffer tubes 18 to form a stack 22, a self-supporting effect is created that permits the optical fiber ribbons 20 to carry an increased amount of external load. Thus, when multiple fibers are disposed in a tube, they can carry loads themselves, with a minimized contribution from additional strength members, so as to form a self-supporting structure. Also, when the number of fibers per tube is increased, the required strength contribution from a fabric-composite wall is lessened, so the wall thickness can be reduced. This results in a reduction of reliance on expensive and space consuming strength members, which are traditionally used to provide stability and support to an optical fiber configuration. Although Figure 4 shows buffer tubes 18 containing optical fiber ribbons 20, it will be appreciated that various configurations of optical fibers can be used within the buffer tubes.

Page 7, third full paragraph, please delete and replace with the following:



The optical fiber configuration 28 may also have an axial member 34 that is centrally positioned with respect to the outer protective sheath 30. The axial member 34 is used to provide further support to the optical fiber configuration 28, and can be used to hold and support additional optical fibers or other elongated elements such as electric power wire or power cable. In an effort to reduce the amount of thermoplastic present in the optical fiber configuration 28, the axial member may be formed from rolled composite tape, as described above with respect to



the buffer tubes 10 and 18, and contain optical fibers 14, which may take the form of optical fiber ribbons 20.

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With reference to Figure 6, a method of making an optical fiber configuration according to the present invention will be discussed. First, the composite tape 12 is positioned in an unrolled condition. A gel or foamy type glue 38 is applied to an open face 36 of the composite tape 12. Optical fibers are then positioned on the composite tape 12. It is noted that Figure 6 shows the optical fibers in the optical fiber ribbon configuration 20, as discussed above with reference to Figure 3; however, various configurations of optical fibers may be used. After the optical fiber ribbons 20 are placed on the composite tape 12 containing the gel, the composite tape 12 is rolled or wrapped around the fibers so that a buffer tube 18 configuration is formed. A similar rolling process is then performed to form the stacks 22, and then to form the optical fiber configuration that is described with reference to Figure 5. The tape can be helically wrapped, or may be applied longitudinally.

IN THE CLAIMS:

Please enter the following amended claims:



9. (Amended) The optical fiber cable configuration of claim 7, wherein said optical fiber ribbon is surrounded with gel.